

CLAIMS

1. Multilayer product made out of a substrate and at each side at least one cover layer, completely or partly covering the substrate, the substrate being a fibre reinforced thermoplastic product with randomly distributed fibres and with a density of less than 1.2 grams per cm³, preferably less than 1.0 grams per cm³ and the cover layer being a long or continuous fibre reinforced thermoplastic with the fibres being orientated approximately parallel to one another within each balanced layer.
2. Multilayer product of claim 1 with a substrate with fibres having an average length of between about 7 and 200 millimetres.
3. Multilayer product of claim 1 with a cover layer having long or continuous fibres with an average length of at least 100 millimetres.
4. Multilayer product of claim 1 with a cover layer with long or continuous fibres, which are each individually embedded in the thermoplastic material.
5. Multilayer product of claim 1 with a plastic material in the substrate and in the cover layer which may be the same or different and that is chosen among the following thermoplastic materials: polyolefins, polycarbonates, vinyl aromatic homopolymers, vinyl aromatic compounds containing copolymers, vinyl aromatic compounds containing graft copolymers or vinyl aromatic compounds containing blockcopolymers, thermoplastic polyesters, thermoplastic polyurethanes, polyetherimides; polyphenylene sulfide, polyphenylene ethers, polyamides or blends of thermoplastic materials comprising at least one of the mentioned thermoplastic materials.
6. Multilayer product of claim 1 with a substrate with a thickness between 1.0 and 10.0 millimetres.

7. Multilayer products of claim 1 with cover layers with a thickness of between 0.1 and 5 millimetres.
8. Multilayer products of claim 1 wherein the thermoplastic material of the substrate and the cover layer comprise compatible thermoplastic material.
9. Multilayer product of claim 1 with on each side of the substrate at least two cover layers, the long fibres of at least two cover layers on each side of the substrate having a different orientation of the long or continuous fibres.
10. Multilayer product of claim 1 with fibres in the substrate, which have been made out of any of the following materials: glass; carbon; synthetic materials, mineral or natural fibres.
11. Multilayer product of claim 1 with long fibres, which have been made out of any of the following materials: glass; carbon; synthetic materials, mineral or natural fibres.
12. Process for the manufacture of a multilayer product by covering a substrate at each side at least partly with at least one film or prepreg layer, the substrate being a fibre reinforced thermoplastic product with randomly distributed fibres and with a density of less than 1.2 grams per cm³, preferably less than 1.0 grams per cm³ and the cover layer being a long or continuous fibre reinforced thermoplastic with the fibres being orientated approximately parallel to one another within each layer.
13. Process of claim 12 comprising at least one additional step of heating the multilayer product covered with the cover layers under pressure in a mould corresponding with the desired shape of the product at a temperature above the glass transition temperature of the thermoplastic material in the substrate.
14. Process of claim 15 comprising the step to heat the substrate under pressure before applying the cover layers.

15. Painted multilayer product made out of a substrate and at each side at least one cover layer, the substrate being a fibre reinforced thermoplastic product with randomly distributed fibres and with a density less than 1.2 grams per cm³, preferably less than 1.0 grams per cm³ and the cover layer or layers being a long or continuous fibre reinforced thermoplastic with the fibres being orientated approximately parallel to one another within each layer, provided at least on one side with at least one paint layer.
16. Painted multilayer product of claim 17 with a primer layer between the outer cover layer and the paint layer or layers.
17. Process for painting a multilayer product made out of a substrate and at each side at least one cover layer, the substrate being a glass fibre reinforced thermoplastic product with randomly distributed fibres and with a density less than 1.2 grams per cm³, preferably less than 1.0 grams per cm³ and the cover layer being a long or continuous fibre reinforced thermoplastic plastic film with the fibres being orientated approximately parallel to one another, by optionally providing the surface to be painted by a primer and by optionally giving the surface to be painted a surface treatment followed by application of one or more paint layers.